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Education

Dalhousie University, Halifax, NS, Canada	Chemistry	Ph.D., 2010
Cape Breton University, Sydney, NS, Canada	Chemistry	B.Sc., 2006
Cape Breton University, Sydney, NS, Canada	Business	B.B.A., 2006

Professional Experience

2012-p	Postdoctoral Research Associate, Center for Nanophase Materials Sciences, Oak Ridge National Laboratory
2011-2012	Postdoctoral Researcher, The Ohio State University, Department of Chemistry
2006-2009	Laboratory Teaching Assistant, Dalhousie University, Department of Chemistry

Honors and Awards

2009 Douglas E. Ryan Prize for Overall Excellence in Research, Dalhousie University, Department of Chemistry

Research Synopsis

- Nanoscale characterization of energy storage materials using Scanning Probe Microscopy*
Investigation of surface deformation of supercapacitor materials during charge/discharge.
Investigation of characteristic time scales of double layer formation and diffusion of ions into pores.
- Lithiation of tin anodes in lithium ion batteries*
Investigation of various phases of Li-Sn alloys formed during lithiation of Sn anodes using electrochemical and surface characterization techniques.
- Self-discharge of carbon-based aqueous supercapacitors*
Investigation of the mechanisms of self-discharge of supercapacitors. Main focus was to determine the role of charge redistribution in the potential loss experienced during storage.

Graduate and Postdoctoral Advisors

Graduate Advisor: Dr. Heather Andreas (Dalhousie University)
Postdoctoral Advisors: Dr. Anne Co (The Ohio State University)
Dr. Nina Balke (Oak Ridge National Laboratory)